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THE USES OF A UNIVERSITY

by

DR. JAMES GRIER MILLER



175 years of service

UNIVERSITY OF LOUISVILLE



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DR. JAMES GRIER MILLER

President of the University of Louisville

An Address on the Occasion of His

Introduction to the Community

Friday, October 5, 1973



GOVERNOR Ford, Congressman Mazzoli, Congressman Snyder, Judge Hollenbach and members of the Fiscal Court, Mayor Burke and members of the Board of Aldermen, honorable officials, my former and present students, my former and present associates, alumni, invited guests, and members of the community:

First, I want to thank all of you for coming to participate in this celebration. Your presence is the latest of many indications since we came to Louisville of community support for the University. My wife and I are grateful for the very warm, friendly reception you have given us from the moment we arrived. Also I want to express my gratitude for the arduous labors of hundreds who have worked in different capacities to make this occasion possible.

It is appropriate during this one hundred and seventy-fifth anniversary year of the University of Louisville for me to speak about its past, its present, and its future. It is much younger than the first university still in continuous operation, Al Azhar University in Cairo, Egypt, which was founded in the year 970 and is now in its second millennium. We here share in the continuity of the academic endeavor dating from that time, and going back informally at least to the earliest Greek philosophers and probably before. It is a continuity symbolized by the academic gowns some are wearing today. They are somewhat bizarre garb in this age of blue jeans. But they are far from a mummery, for they remind us of man's ancient and ongoing intellectual endeavors.

Yet, though the University of Louisville is newer than many of the universities represented by the symbolism of these gowns, it is still much older than the latest community college or open university to begin operations this fall. It was the first municipal university in the United States, now supported also by the county and the state. Its tradition began in the Eighteenth Century—1798—when only a few more than 30 of our nation's colleges and universities had been founded.

Early in the history of this commonwealth, the Kentucky General Assembly established a state system of higher education, accepting Thomas Jefferson's view that an educated citizenry is the foundation of an effective democracy. One of the early institutions in this state system was the Jefferson Seminary, established in accordance with a plan for higher education conceived by Jefferson, who had signed the charter of the City of Louisville in 1780. The Seminary became the forerunner of the University of Louisville. Now once again, many years later, the University is a part of the system of state-supported higher education of this commonwealth.

THE NINETEENTH CENTURY

Let us for a while jointly embark upon whatever may be our favorite science fictional form of transtemporal mass transit—a time machine, a space warp, or a pharmacological transmutation—and go back in time to the last century in Louisville. Housed in small, often poorly maintained buildings, this university was frequently troubled financially but it provided higher education to the leadership of the remarkable community that was Louisville in those days. As Arthur Krock, the distinguished Washington correspondent who grew up in Louisville and was once editorial manager of *The Courier-Journal* and *The Louisville Times*, wrote in his recent autobiography:¹

“Even before the day when Major Throckmorton, the imperious proprietor of the Galt House, ordered the equally imperious Charles Dickens to give up his lodging at the hotel, because that famous hostelry would not tolerate bad manners on the part of any guest, however celebrated, Louisville was a sophisticated community. It may not have been the Boston of the South, but it had a stronger claim to this than upstart Atlanta, somnolent Charleston and pleasure-centered New Orleans.

“The Filson Club, founded by Colonel Reuben T. Durrett, housed then and now the most authoritative and comprehensive archive there is of the history of the great migration to the West. The evenings of the Salmagundi, devoted to literary discussion—ancient and modern—and appreciative sipping of fine French wines, were indeed ‘feats of reason and flows of soul’ by virtue of the brilliance and wide-ranging culture of its carefully chosen members. And if the term ‘gentleman’ is held to its proper definition to mean a civilized, educated, well-mannered

man, then no club in the United States numbered more such persons proportionate to its size than the Pendennis. Moreover, wit and humor were in ample supply in all these assemblages." Thus Mr. Krock portrays the city of Louisville as a center of culture many years ago.

In fact, it has always been a place that has respected the intellect and, to some extent as a direct consequence, it has been the home of many women and men who have contributed importantly to our nation and the world. Some of these have been alumni of the University of Louisville. Among the major figures in the past, significant enough to have an expressway named for him, was Henry Watterson, the celebrated editor of *The Courier-Journal*. In addition to being a fine journalist he was either the keynoter or chairman of the Resolutions Committee of several Democratic National Conventions. A superb orator and lecturer, he thrilled audiences in all parts of the country.

Native to Louisville were Dr. Simon Flexner, the renowned pathologist who first produced a serum for the treatment of spinal meningitis and his brother, Dr. Abraham Flexner, whose report on medical education in America began a major reform of medical schools throughout the nation, including that of the University of Louisville. Another native was one of the very greatest lawyers to sit on the Supreme Court of the United States, Justice Louis Dembitz Brandeis. With his wife he is buried in our Law School.

The curriculum of the institutions which gave rise to the University of Louisville in the Nineteenth Century reflected a culture different than that from which today's courses arise. Although the professions of medicine, dentistry, and the law were taught by the University, and most Kentuckians in those fields were its graduates, there was more emphasis on broad cultural studies than on technology and science. More courses than today were tinged with religious views and values. The concepts of the science of that day and the applications of science were not emphasized. Many of the vocations of our present complex society were not taught. The university, nevertheless, carried out an important social function. It provided an understanding of man and the world which helped its alumni to have a high quality of life. All in all a gentle and pleasant, unhurried way of life, compared to our present haste and frenetic activity, surrounded the University of Louisville in the Nineteenth Century.

THE TWENTIETH CENTURY

Now let us travel together in time by our fictional mass transport to the next station on our itinerary, the present—today in the city of Louisville and in our University.

Both have changed greatly in the Twentieth Century. In a community of about 900,000 persons, the University has several times the number of students it did a hundred years ago—over 12,000 this academic year and about 5,800 more in the summer. These numbers include not only undergraduates but several thousand graduates and professional students. The University College and the continuing education programs are designed to provide for the lifelong learning needs of persons of all ages in the community. It is currently one of the growth situations in American higher education. The student body grew about twelve percent this year. The older alumni find it hard to recognize the organization: many more students, much less parking, nearly a hundred buildings—a large number of them quite new—more than a thousand faculty members to teach the students, and several research centers and institutes. The only thing that appears to be the same is the desire for excellence widespread through the institution and the remarkably reliable series of basketball victories to which we are now adding some hopes in football. In addition to the old Belknap campus, there is the handsome Health Sciences Center surrounded by a cluster of hospitals and constituting a major health facility, the Shelby Campus in the eastern suburbs, the attractive Gardencourt campus near the seminaries, and even a bird and wildlife sanctuary. The women and men on these campuses dress and act differently from their predecessors. The mass media and rapid transportation provide them more variegated life experiences. But there is a commonality—the search for the truth.

This is an urban institution. In saying this we refer not only to its location but also to its viewpoint. Each school in the University of Louisville serves the community as well as the commonwealth today in a variety of ways—more than are generally recognized. Here are some selected examples from the current year:

College of Arts and Sciences

- More than one hundred and twenty students from seventeen junior and senior high schools this spring participated in a computer fair sponsored by the Department of Mathematics.

- Undergraduates served as interns in the commonwealth government at Frankfort this year under the sponsorship of the Department of Political Science.
- The Fine Arts faculty compiled a book on historic and architectural buildings in Louisville this spring for use by planners in preserving the community heritage.

School of Business

- Senior students and faculty members advise local minority and small business companies on management problems.
- More than two hundred and sixty students are enrolled in the evening Master's Program in Business Administration—advanced professional training for local businessmen who work during the day.

School of Dentistry

- Over three thousand patients will be treated by students in the University's Dental Clinic in 1973.
- Family dental bills will be lowered by a program that teaches expanded use of auxiliary personnel for routine tasks.

School of Education

- Specialists at the audiology and reading improvement clinics will diagnose and treat hundreds of local school children referred to them by teachers this year.
- Many school teachers are provided with graduate instruction which school systems believe they need to upgrade their professional skills.
- The Louisville Urban Education Center in the Brown Center is a joint program between our University, the University of Kentucky, and the Louisville school system, by which faculty members and graduate students analyze problems of Louisville's urban school system and develop strategies to meet them.

Graduate School

- Graduate students serve as interns doing research for each of the city's twelve aldermen.
- The new Institute for Expressive Therapy stresses the use of creative art to maximize the potential of children needing therapy.
- The Archaeological Survey students and faculty are searching out evidence about the prehistory of Kentucky.

Kent School of Social Work

- This spring the Kent School placed about one hundred and ninety students to work thirty hours per week in social service organizations like the Metro United Way. A major incidental benefit which will accrue to the community from this is forty-one man-years of social work and clinical services, worth well over \$400,000.

Law School

- Each year senior law students supervised by faculty members serve without compensation as prosecutors or defense counsel for defendants charged in the police courts.
- Drafting was completed this year on a lower-courts bench manual for use by nonlawyer judges throughout Kentucky.
- Nearly two hundred students are currently working toward law degrees in evening classes that provide legal education for persons who must work during the day.

Medical School

- The ongoing Medical School cytology project for detecting uterine cancer over a fifteen-year period produced a fifty percent drop in the death rate from this disease in Jefferson County, a far greater decrease in mortality than in areas where no such program was carried out.
- A significant decrease in the local infant mortality in recent years appears to have resulted from a special University program for high-risk infants.
- Medical School scientists continually analyze suspected drug samples for local police to provide evidence against drug pushers.
- House staff officers, who are also students at the University, are mainstays of the patient care services at Louisville General Hospital.

School of Music

- Over sixty percent of the members of the Louisville Orchestra are faculty, alumni, or students of the School of Music.
- The Kentucky Opera Association and its distinguished director are also affiliated with the School of Music.
- Faculty and students of the School of Music participate in inner-city arts programs, using such innovations as the Suzuki method to teach violin to children.

Police Administration

- Many Kentucky policemen will join police from all over the world in receiving advanced professional training this year in short seminars and fourteen-week courses at the Southern Police Institute.
- The National Crime Prevention Institute is helping police departments throughout the United States, including that of the City of Louisville, develop innovative crime prevention programs.

Speed Scientific School

- Local high school teachers received supplemental training this summer on how to teach about problems of the environment in an institute organized and operated by the Speed School faculty.
- Speed School technicians help the local Channel 15 education television station broadcast live, remote coverage of public-interest programs like meetings of the Board of Aldermen.

University College

- More than two thousand seven hundred people of a wide range of ages and interests are enrolled this fall for evening credit courses.
- Special seminars and short courses sponsored by the University College provided learning experiences for hundreds of interested persons this past year in areas as diverse as labor relations, cable television, and estate planning.
- The Schlesinger film festival has a new feature this year: faculty members lead critical discussions about films for the public.

Other Services

- Two conferences involving foreign diplomats and Federal policy makers, one on foreign policy and the other on trade, will be conducted by the International Center this year to help keep Louisville up to date on international affairs.
- The University of Louisville, jointly with several other private and public institutions of higher education, sponsors the Kentuckiana Metroversity, which makes courses and libraries of all member institutions available to students in the Louisville area so that local resources for higher education are used cooperatively and not competitively.
- This year the Urban Studies Center produced computer models capable of forecasting housing needs for the entire commonwealth and the long- and short-term impacts of age, income, and population changes on the needs for and costs of public facilities in Jefferson County.

As these functions are being carried out, the University of Louisville is also contributing massively to the economy of the city and region. A careful study conducted by Marie Glass indicated that in the 1971-72 fiscal year the University added to the local economy more than \$60 million.² Certainly it will be significantly more in 1973. So whether you measure the University's contribution to the community in terms of the number of its alumni who become leaders, in terms of the services it provides, or in economic terms, it is clear that it is today having a considerable impact on Louisville and Kentucky, as it has for a long time.

One other major point. The University is not merely accepting things as they come; anyone who understands the institution knows that it is attempting to innovate and bring about change in many directions. The arts which it supports or fosters are frequently the new arts, just as the Louisville Orchestra is interested in the new compositions. Its various theatrical activities often produce new and experimental plays. Modern art is taken seriously and appreciated. Television and computer-aided instruction have been here for some time. And last year University College moved to permit students to prepare themselves, by television or radio lectures, or other home study, to take external degrees in certain areas. The University of Louisville is old, but it is in the current stream of educational experimentation and innovation. It is looking more to the future than to the past.

THE TWENTY-FIRST CENTURY

And now we have reached the time for our fictional mass transport to depart to the Twenty-first Century. What will the University of Louisville look like then? Our vision of the past, elicited from the memories of senior citizens, from the University archives, and from local history, is faulty. But our vision of the future is even more clouded. Nevertheless, we do have some indication from our current academic and campus planning exercises which are devising University master plans up to ten years into the future. We deal with charts whose time axes begin with 1974 and end with Orwell's rather frightening year of 1984, which is not too far away from the Twenty-first Century.

There is a distinct consensus among many persons who contributed to the production of a recent document on the future role and

scope of this university. I share in the consensus, which is perhaps one reason why I was selected for this position. The following are some of our visions of what this university should be in the next century:

We recognize, as did Orwell, that science and technology will be powerful shapers of the world of the future. Therefore we must educate our students not only in the content and language of the first culture of the liberal arts, but also in the content and language, no matter how arcane, of the second culture of science and technology.

The occult jargon of science makes it hard for laymen to comprehend many fundamental facts of the world: enzymes that turn chemical reactions on and off in cells; antibiotic drugs that block the laying down of memories in goldfish; holograms that picture all sides of an object at the same time; computer memories that can store billions of bits of information in a space smaller than a breadbox; a message decoded from an ancient lamp of bronze corroded by the sea for more than thirty centuries; chemical messages transmitted by mouth from one termite to another; orphan monkeys whose personalities differ according to whether they were raised with a cold, wire imitation mother or a warm, terry cloth imitation mother; space vehicles that carry aloft men with telescopes and spectroscopes to observe recently discovered comets millions of miles from the earth; mixtures of chicken and mouse cells that sort themselves out and make separate organs typical of each species; blueprints of new generations inscribed in minute filaments in cells, in a code men can interpret. Such matters are too obviously of human concern, as Lord Snow has so cogently demonstrated, for educated persons of the future not to have some comprehension of them.

But broadening and deepening our knowledge of science does not mean that we should in the future neglect the first culture of the humanities. These fields have been chronically underfinanced in American universities. Consequently they have not been given attention commensurate to their importance to society. Fortunately in recent years federal support for them has significantly increased. The study of logic, philosophy, religion, ethics, and morality should flourish in the Twenty-first Century. The daily news can only convince us that the need for value systems does not decrease as the complexity of society increases. As Adam Schaff, Poland's leading Marxist philosopher,

has contended, neither communism nor capitalism nor any other world view can flourish unless it provides insights into the meaning of individual life and indicates how a person should meet the inevitable crisis of human existence. Also the emphasis on the arts will expand. Museum exhibits, concerts, plays, and poetry readings will pervade academic life more than they do now.

John Platt foresees the future of higher education when he contends that "the really complete university should be a sort of five-legged animal." He writes:³ "The left hind leg is scholarship—the knowledge of everything man has done or written or thought. The left front leg is teaching—the transmission of this knowledge to the next generation. The right hind leg is creativity—the generation or discovery of new insights or new knowledge in literature and the arts and the sciences. And the right front leg is public service—the application of all this knowledge in writing and consulting and inventing, for its value to industry and government and the public.

"(From this point of view the real gap between 'the two cultures' is not between the sciences and the humanities but between the creation-minded sciences and humanities and the storage-oriented sciences and humanities. Creative humanists, from Chaucer to Goethe and Browning, were making fun of storage-minded academics and pendants long before scientists appeared on the scene. The weakness of the humanities departments in not having enough top-rate creators and inspirers of the young continues to be one of the sad facts of university life today. Newton could do his lifework at a university now, but Mozart and Michelangelo and Shakespeare would more likely be working in New York lofts.)

"To go on with our analogy, the fifth leg of the complete animal is innovation—the trunk of this wise elephant, let us say, reaching forward to grasp the future."

Innovation is "a different kind of public service—not the kind that simply meets the requests of existing industry or government or the military, but the kind that enlarges the achievements of man and transforms societies. I mean not merely achievements, such as atomic energy and radar, that generals did not even know they wanted, but input-output matrices and Keynesian economics, that show us how to avoid economic dislocations and depressions; or theories of information and feedback and competitive decision-making and operations analysis,

that change our whole approach to problems of communication and conflict and organizational structure; or the application of chemistry and biochemistry and the new biology to effect spectacular reduction in disease and mental illness. . . . recent studies have shown that the major innovative ideas are perhaps ten times as likely to be born in the intellectual centers of the great university communities. The universities are coming to be not only repositories of knowledge and trainers for the future but places where the most important contribution may be the search for new understanding and the combining of ideas into new patterns."

In the future the University of Louisville will strive to engender and maintain a climate of discovery. Innovation or creation require a particular psychological set: continual, almost compulsive inquiry; concentrated analysis and accumulation of knowledge; intuition; self-discipline; and perfectionism. An innovator is usually introspective and often somewhat resistant to external authority because he is reorganizing his ideas in a way not fully consistent with the past and therefore not fully approved by the Establishment. Profound belief in the importance of such exercises can buoy administrators in the onerous task of maintaining the climate necessary to discovery, in the hope that the final outcome to society will be worth the effort.

GOALS OF THE UNIVERSITY

In the next century the University of Louisville will still be striving for excellence, probably more vigorously than now because it will understand more clearly what its academic goals are. By then academic planning and goal setting will be more of a science than they now are. So will institutional self-evaluation.

The major purpose of education is to improve human competence and the excellence of human performance. In our complex, pluralistic society, excellence takes no single form—it has many manifestations. Each of the following persons had his own unique type of excellence: Jessie Owens, Frank Lloyd Wright, George Szell, Olga Korbut, Albert Einstein, Johann Sebastian Bach, Henry Ford, Walt Disney, Carl Friedrich Gauss, Louis Brandeis, Sir Thomas More, Helen Hayes, General DeGaulle, Jonas Salk, Duke Ellington, William Shakespeare, Abraham Lincoln, Billie Jean King, Sun Yat Sen, Johnny Unitas, Lena Horne, Julia Childs, Lewis Carroll, Danny Kaye.

A properly conceived university should be able to help all such persons to use their talents and to advance their skills and abilities. It should be concerned with the whole man—with socialization; development of athletic skills; enhancement of sensitivity to the arts; maturation of the emotions; preparation for employment in government, industry, agriculture, and the professions; basic research and scholarship; even preparation for marriage. All these are proper concerns of a truly universal university.

Recognizing that all women and men are created equal in rights but not in talents, as the Parable of the Talents tells us, it is still desirable for each person, by education, to enhance to the fullest his particular abilities. When many people act on this principle, however, the issue arises which Jefferson and Hamilton debated at the founding of our country, and which has concerned several generations associated with this institution: Is the university created to educate only the elite? Or shall we, like Jefferson, have enough confidence in the masses to educate them? John Gardner posed the question, "Can we be equal and excellent, too?" The answer is "Yes." The multiple resources of a large university like this one can be employed to prepare leaders and also to develop to their fullest the human resources of the entire population, so improving the quality of life for all.

During the last month I have conducted a miniscule survey, asking an unrepresentative handful of students, faculty members, and administrators at the University: What makes a university excellent? We must know concretely what our goals are. There seemed to be consensus that an excellent university is characterized by:

- Alert minds that are determined to remain modern, updated, and innovative.
- Intellectual stimulation and openness to all experience, discussion, debate, argument—even heresy.
- Free, fair, unbiased communication.
- Meaningful human interactions between involved intellects, especially between students and faculty members who care personally about the welfare of those students.
- Active participation by students in the intellectual process, not simply parroting the statements of their instructors, but independently developing their own concepts and solving their own problems.
- An atmosphere which motivates faculty members and students alike

to intellectual productivity, to enthusiasm for the hard work of thinking and communicating, of teaching, research, and scholarship.

- Concern with all aspects of human beings—their ideas, values, beliefs, physical abilities, and social interactions.
- Emphasis on social applications of knowledge and ideas that lead to action.
- Continuing responsible self-evaluation by the university community of its products and services.

These are the sorts of excellence toward which the University of Louisville will strive in the future.

To accomplish this we shall recruit as faculty members and administrators persons who are deeply committed to the academic process. It is reasonable to select as an officer of a bank a person who believes in the capitalist system. In choosing a museum curator it makes sense to demand a person who is sensitive to the arts and derives satisfaction from them. In recruiting a sea captain you do well to seek out someone who enjoys the life of the sea and believes in the importance of his occupation. In each case you search for someone who incorporates in himself the goals of his vocation. We shall in the future apply this same principle in the selection of academic administrators at all levels. While they certainly must have management skills, we shall also expect that they have experienced the academic life, fundamentally believe in the intellectual process, and continue to participate in it.

As Harold Dodds, former president of Princeton, said:⁴ "The critical task for every president and his academic administrative staff is to assure that the college or university continually rebuild and regenerate itself so that its performance will match changing social demands . . . great professors do not automatically reproduce themselves."

Administrators must constantly make decisions, explicit and implicit, which either facilitate or hamper the achievement of academic goals. How completely they incorporate in themselves these goals influences how effectively their actions advance the central purposes of the institution. Personal commitment is needed in addition to administrative ability.

EDUCATIONAL INFORMATION PROCESSING

In the Twenty-first Century the way students go about learning at this university and others will be remarkably different from the way

they do it today. The change will amount to a revolution in educational information processing. Some organizations, like a railroad, a department store, an oil pipeline company, or an electric utility serve the society by processing one or another form of matter or energy. Other organizations, like a television network, a newspaper, or a telegraph company primarily process information. Fundamentally a university is a special sort of information processing organization. It does not simply communicate, however. It also creates and stores knowledge. Indeed all the five functions mentioned as essential to a complete university in the passage from John Platt which I quoted earlier are information processing activities. It is the responsibility of the university to carry out this information processing efficiently and objectively, without distortion.

In the past and at present at the University of Louisville and most other universities, information has been processed chiefly by an instructor talking to a class of twenty-five or thirty students, although the number has varied considerably. In the past, the flow of information in such classrooms was primarily in one direction—from the lecturer to the students. At present there is a little more flow in the other direction. There is quite a bit of discussion. But lectures still outnumber discussions. There is no evidence, however, that the best way for a person to obtain information, the best way to learn, is in a classroom with a teacher and twenty-five or thirty other students. In the future many other alternative systems of information processing will certainly be experimented with and put into use.

The first Industrial Revolution, which flourished around 1800 and is still going on, has provided many machines to process matter and energy. Today any academic administrator would be derelict in his duty if he did not make full use, to improve the effectiveness and cut the costs of education, of such developments as electric power, automobiles, and the latest methods of building construction. Within the last twenty-five years there has been a second Industrial Revolution, dealing with information processing machines. This includes numerous new media, including radio, television, computers that instruct students, a wide range of other sorts of audiovisual aids, computerized information storage and retrieval, and facsimile transmission of documents. Radio, TV, closed circuit TV, cable TV, and even educational

satellites can convey instructional materials over networks. Such media can add to the talents of our own faculty the abilities of lecturers from all parts of the world. They can enhance lectures with moving audiovisual displays—scenes from operas, microscopic views of living microorganisms, atomic experiments—not easily available in traditional classrooms.

Sooner than most realize these instructional media will extend beyond the University of Louisville until it finally becomes indeed a university without walls, an open university. Planning undertaken in the last few years by our faculty will in the future make possible non-formal as well as formal credit and degree-granting lifelong education to persons in the community of all ages and stations in life. Non-formal education using these media has gone on since the early 1930's in many nations of the world. More recently the highly publicized Open University began using instructional radio and television in Great Britain. It is now being extended to various colleges in the United States and to other countries. Indeed sometime, with improved communications and advanced management techniques, the University of Louisville may well find itself a component in a truly international university using the media.

Such education will serve all segments of the community—among others women, who because of early marriage never completed college work; women with young children who find it difficult to go to formal classes; adults who never previously had the opportunity for a college education; graduates of two-year community colleges who work but wish to complete bachelor's degrees; and college dropouts who later in life decide to continue their educations.

It is incumbent upon academic administrators and faculty members to take the second Industrial Revolution as seriously as the first. It is much more relevant to the essential educational processes than the first. How can these new media, available to us for the first time in our generation, be applied to improve the effectiveness and cut the costs of higher education? Society may legitimately expect the faculties and administrators of universities to compare objectively the resources required, as well as the quality and quantity of the outputs, of alternative educational systems and adopt the best. What is best for one content area or one instructional situation or one type of student may not be best for another. Also computerized management information systems

can provide organizational indicators which will help all concerned evaluate the effectiveness of alternate educational strategies.

In addition to the manpower and monetary costs of systems of instructional technology, one cost may be a sense of impersonality and anonymity on the part of some students. Students often say that they can learn better by intimate human contact with professors than by television, videotape cassettes, books, or other information processing media. They often fear that professors will write a textbook or tape record their lectures and then use the time they save from lecturing for their own research or other personal activities, rather than instructing and interacting with them face to face. Such exploitation is possible and undesirable. Yet responsible professors may use these not to decrease but to improve the intimacy of instruction. If faculty members will record their lectures and occasionally update them, they will be saved enough time from repetitive lecturing to be able to meet with students who have viewed these lectures, discussing with them individually or in small groups the meaning of the content matter in an intimate instructional situation not common on our campus today. Instructional technologies should not be used because of their glamour but only to further such human goals as improving the excellence of instruction and facilitating the learning of individual students. There will be resistance among traditionalists to such changes, but experimentation with alternative educational strategies will indicate which are best.

All of this is far from new. It has been prophesied by the seers for a long time. But it is only now beginning to be implemented at the University of Louisville, and its widespread implementation will lie in the future. As early as 1921 H. G. Wells, who foresaw the future with remarkable clarity, conceived of a worldwide educational system, a sort of world mind.⁵ Books, lecture notes, pictures, diagrams, phonograph records, and motion pictures of laboratory experiments, he predicted, would be disseminated to all parts of the world to provide excellence in education unachievable by any other means. He envisioned mass production of education by a centralized organization, using all the instructional media known at his time. These things are now beginning to happen in such developments as local and statewide radio and television networks for education and cable television. Educators generally do not yet take these as seriously as they will in the future or recognize how useful these media can be to the central infor-

mation processing functions of their organizations. The future, however, is likely to develop as it was envisioned by Ralph Gerard when he wrote:⁶

"I like to think of the total system as a sort of sandwich, of data bank on one side and users on the other, interacting via [an] information processing apparatus. The data bank includes not only the ordinary internal and external memory devices of the computer but the mobilization of any kind of material which can be recorded—on video tapes, movie tapes, micro forms, slides, phonograph records, thermoplastics, what you wish. This great data bank need not be located physically in relation to any particular processor but be made available to many by networks. Such banks can be accumulated in a very few places (conceivably in only one except for the danger of loss or damage) and, by the communication networks, be made available at least areawide to all sorts of users in all aspects of education. On the other side, I see the user sitting at a terminal, a console or carrel, at a convenient location, including his own home, and able to communicate in and out not only by typewriter, by cathode ray screen plus light pen, and by voice, but also doing these with relatively simple buffer arrangements and using an adequate communication language. Beside the individual user, group interaction should be handled—a seminar with the instructor and a dozen or more students interacting audio-visually via a communication network and controlled through the computer processor much as if all were in the same room.

"The processor itself I like to call the tutor because here is an agent potentially updated in subject matter; and learning improved heuristics of the precise educational techniques to be used for this or that kind of individual with this or that previous training and with this or that temperament—a hostile youngster who likes to fight back or a passive one who must be cuddled and brought along. The tutor will have built into its own memory a detailed knowledge of each student with which it is working, in terms of that individual's background, personality, and achievement in the particular field; will be able to give the tutee immediate individual attention and to do so without threatening and with infinite patience. . . .

"Even beyond the immediate teaching possibilities are the exciting social outcomes for education. I shall briefly mention three. First, there will be greatly increased flexibility not only in handling the in-

dividual child, but also in handling the materials. If one can break the teaching sequences into relatively small units then, as with a Mechano set, a few kinds of pieces can build a great variety of structures. Instead of having many different courses in statistics—one for psychologists, one for biologists, one for public health, one for engineers, blocks of basic elements and particular uses can be put together in well-tailored fashion. This also means that it should someday be possible to get away from the lock step of the semester or the quarter system. Large course blocks should become relatively meaningless as each student goes through a learning experience more or less continuously and one cut to his shape.

“A particularly important consequence could be the separation of the function of certification from the function of education. They are now part of the same process; and getting good grades, in order to enter the next school and get good grades in order to enter the next one above, has so come to dominate the whole thinking of the students and the teachers that whether one gets an education or not has often been pretty much forgotten. Progress can be certified and mastery tested in a much more certain and objective way. . . . Another important outcome . . . is the possibility of spatial dispersion of the learning experience. If certification is covered, then actual class attendance to learn becomes immaterial.”

Commenting on such visions as that of Ralph Gerard, Toffler observes that⁷ “in the educational world of tomorrow that relic of mass production, the centralized workplace will . . . become less important. Just as economic mass production required large numbers of workers to be assembled in factories, educational mass production required large numbers of students to be assembled in schools. This itself, with its demands for uniform discipline, regular hours, attendance checks and the like, was the standardizing force. Advanced technology will, in the future, make much of this unnecessary. A good deal of education will take place in the student’s own room at home or in a dorm, at hours of his own choosing. With vast libraries of data available to him via computerized information retrieval systems, with his own tapes and video units, his own language laboratory and his own electronically equipped carrel, he will be freed, for much of the time, of the restrictions and unpleasantness that dogged him in the lockstep classroom.

“The technology upon which these new freedoms will be based

will inevitably spread through the schools in the years ahead. . . . Within thirty years, the educational system of the United States, and several Western European countries as well, will have broken decisively with the mass production pedagogy of the past, and will have advanced into an era of educational diversity based on the liberating power of the new machines."

I am a professor and shall always remain one, and consequently I do not like to believe that I shall some day be replaced by a machine. Fortunately for me, however, I believe that this will not happen. I have always used textbooks as adjuncts to my teaching. In the same way television, computerized instruction, automated libraries, and educational satellites can aid me in reaching more students more effectively and less expensively. I am not threatened by competition from instructional machines—I am excited by their potential.

OTHER EDUCATIONAL CHANGES

There will be many other sorts of changes in the future of higher education. We must, for instance, deal with the potential curse of bigness in universities. A university which is growing like this one must recognize that increasing size produces increasing impersonality and a sense of anonymity on the part of students that can cut into their motivations and impoverish their self-concepts. It is possible, however, to break up large universities into relatively small semi-autonomous units, so that the students identify with their units and so that its faculty members can know their students well. Perhaps we can achieve an arrangement that will make it possible for at least four faculty members to identify each student by name and be able to write a few perceptive paragraphs about his personality, his development, and his academic progress.

In the distant past the amount of knowledge of the world was so limited that an educated person could obtain a reasonably complete overview of it. But scientific knowledge for more than a century has been doubling every decade—an exponential growth—and other knowledge nearly as fast. Populations have been exploding and in so doing generating more facts to be learned. We cannot cram all medical or legal knowledge into a graduate curriculum of *any* length, or all the arts and sciences into a lifetime of learning. Education, then, must in the future move away from the teaching of rote facts to the teaching

of ways to obtain needed facts and solve problems. It must also include instruction in the appropriate use of the various adjustment processes an educated person can use to cope with the information overloads modern life forces on all of us.

Our university in the future will not turn inward but will have many windows. One will be to the city. Another will be to the wider area of Jefferson County. A third will be to the entire commonwealth. As a comprehensive university we should make our capabilities available throughout Kentucky in multiple ways. There should also be a window to the nation. Kentucky has always contributed leadership to our country. There should be continuing alertness to national implications of the work we do and an openness to ideas current in all parts of the country. And finally there should be a window to the world. Although Louisville is not on an international border or seacoast, flights leave its jetport daily taking passengers to all parts of the world. We must educate narrow provincialism out of our students, for in the next generation Kentuckians will be able to reach any place on our planet in a day and communicate continuously and easily with the ends of the earth through various media. We live in one increasingly interrelated and shrinking world, and we must prepare our students to understand it and contribute to it.

Our University today is divided into traditional disciplines throughout most of its structure. At present there are only a few interdisciplinary institutes and centers. In this it is like most contemporary universities. I recognize the importance and strength of the established disciplines, the distinction departmental organization of universities has brought to learning, as well as the security it brings to the specialists in each area. But I find myself responding to the irony in Russell Ackoff's observation that "It is fortunate that the good Lord created the universe exactly divided according to the traditional academic disciplines."

In the future the University will find an established place for generalists who see across the sometimes restricting and provincial boundaries of the disciplines. Most of the problems of the society are interdisciplinary (or antidisciplinary) in character. It is important for us, while maintaining the traditional disciplines in the regular departments and schools, also to create new academic structures to relate to the needs of the community and society more effectively.

The University is intensively at work composing an academic master plan. It will attempt to outline its responsible role in cooperation with all the other institutions of higher education in the commonwealth, public and private. I believe that plan should address the issues I have raised today. Also we are working on a companion new campus master plan. We shall need city, county, and state support, federal grants, as well as money from industry and other private sources in order to achieve the excellence to which we aspire and extend our impact to all the people. The Carnegie Commission on Higher Education has indicated that the region of Louisville is the second in the nation most in need of expanded state-supported higher education.⁹ It is our purpose to attempt as best we can to meet these needs of the community. We hope to eliminate economic and social barriers to higher education for persons of all stations in life.

THE USES OF A UNIVERSITY

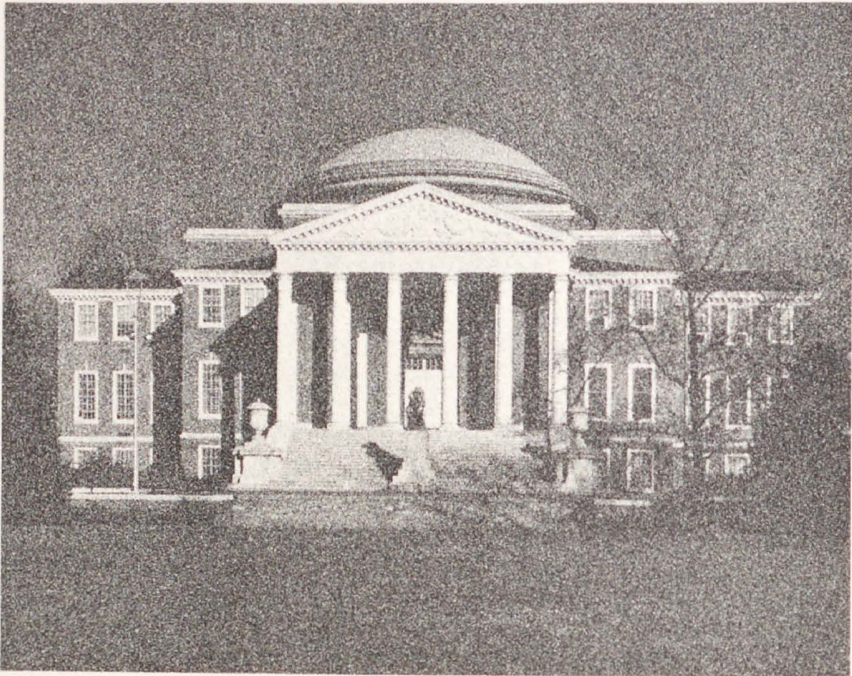
What are the uses of a university? It exists to improve the quality of community life and promote the general welfare. In the future the University will, as it must, turn outward to serve the community and the society. In his book on *The Aims of Education*, Alfred North Whitehead said:⁸ "There is no such thing as a successful system of education in a vacuum, that is to say, a system which is divorced from immediate contact with the existing intellectual atmosphere. Education which is not modern shares the fate of all organic things which are kept too long." My intention as president is to lead the University in constant internal renewal and external interaction with the community.

The University of Louisville has a long tradition, a past worthy of admiration and a present worthy of respect. We can turn in this one hundred and seventy-fifth year to its future with enthusiasm. As O'Shaugnessy wrote:¹⁰

"We, in the ages lying,
In the buried past of the earth,
Built Nineveh with our sighing,
And Babel itself in our mirth;
And o'erthrew them with prophesying
To the old of the new world's worth;
For each age is a dream that is dying,
Or one that is coming to birth."

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